

ABSTRACT

A measuring system comprising a measuring device (1) with a laser tracker (2) and an opto-electronic sensor (3) having fixed positions relative to one another, a system 5 computer and an auxiliary measuring tool (4) with a reflector (5) and at least three light spots (6), is calibrated with the following calibration steps: The auxiliary measuring tool (4) is rigidly coupled with an arrangement of auxiliary reflectors (5') and is moved around at least two different rotation axes. In at least two rotation positions relative to each one of the at least two rotation axes, reflector (5) and auxiliary reflectors (5') are registered by the laser tracker (2) and the light spots (6) are registered by the opto-electronic sensor (3). From the measured data of the laser tracker (2) positions and orientations of the reflector arrangement relative to the laser tracker (2) and from the measured data of the opto-electronic sensor (3) positions and orientations of the light spot arrangement relative to the opto-electronic sensor (3) are calculated and from this the at least two rotation axes relative to the reflector arrangement and relative to the light spot arrangement are calculated. Then calibration data are calculated by equating corresponding rotation axes. For the measuring steps a calibration device (9) comprising a revolving table (11) and a wedge (12) installed on the table is used, wherein the auxiliary measuring tool (4) is mounted on the wedge (12) in two different orientations. Using this device, the measuring steps of the calibration procedure become very simple.

(Figure 4)